SAMSUNG

Samsung SMART CAMERA

USER MANUAL

DV300/DV300F/DV305/DV305F

This user manual includes detailed usage instructions for your camera. Please read this manual thoroughly.

Click a topic

- Basic troubleshooting
- Quick reference
- Contents
- Basic functions
- Extended functions
- Shooting options
- Playback/Editing
- Wireless network (DV300F/DV305F only)
- Settings
- Appendixes
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Health and safety information

Always comply with the following precautions and usage tips to avoid dangerous situations and ensure peak performance of your camera.

Warning—situations that could cause injury to yourself or others

Do not disassemble or attempt to repair your camera.
This may result in electric shock or damage to the camera.

Do not use your camera near flammable or explosive gases and liquids.
This may cause a fire or explosion.

Do not insert flammable materials into the camera or store these materials near the camera.
This may cause a fire or electric shock.

Do not handle your camera with wet hands.
This may result in electric shock.

Prevent damage to subjects' eyesight.
Do not use the flash in close proximity (closer than 1 m/3 ft) to people or animals. If you use the flash too close to your subject's eyes, this can cause temporary or permanent eyesight damage.

Keep your camera away from small children and pets.
Keep your camera and all accessories out of the reach of small children and animals. Small parts may cause choking or serious injury if swallowed. Moving parts and accessories may present physical dangers as well.

Do not expose the camera to direct sunlight or high temperatures for an extended period of time.
Prolonged exposure to sunlight or extreme temperatures can cause permanent damage to your camera's internal components.

Avoid covering the camera or charger with blankets or clothes.
The camera may overheat, which may distort the camera or cause a fire.

If liquid or foreign objects enter your camera, immediately disconnect all power sources, such as the battery or charger, and then contact a Samsung service center.

Comply with any regulations that restrict the use of a camera in a certain area.

- Avoid interference with other electronic devices.
- Turn off the camera when in an aircraft. Your camera can cause interference with aircraft equipment. Follow all airline regulations and turn off your camera when directed by airline personnel.
- Turn off the camera near medical equipment. Your camera can interfere with medical equipment in hospitals or health care facilities. Follow all regulations, posted warnings, and directions from medical personnel.

Avoid interference with pacemakers.
Maintain a minimum of 15 cm between this camera and all pacemakers to avoid potential interference, as recommended by the manufacturer and the independent research group, Wireless Technology Research. If you have any reason to suspect that your camera is interfering with a pacemaker or other medical device, turn off the camera immediately and contact the manufacturer of the pacemaker or medical device for guidance.

Caution—situations that could cause damage to your camera or other equipment

Remove the batteries from your camera when storing it for an extended period of time.
Installed batteries may leak or corrode over time and cause serious damage to your camera.

Use only authentic, manufacturer-recommended, Lithium-ion replacement batteries. Do not damage or heat the battery.
Inauthentic, damaged, or heated batteries may cause a fire or personal injury.

Use only Samsung-approved batteries, chargers, cables and accessories.
- Using unauthorized batteries, chargers, cables or accessories can cause batteries to explode, damage your camera, or cause injury.
- Samsung is not responsible for damage or injuries caused by unapproved batteries, chargers, cables or accessories.

Use the battery only for its intended purpose.
Misusing the battery may cause a fire or electric shock.

Do not touch the flash while it fires.
The flash is very hot when fired and may burn your skin.

When you use the AC charger, turn off the camera before you disconnect the power to the AC charger.
Failing to do so may result in fire or electric shock.

Disconnect the charger from the wall socket when not in use.
Failing to do so may result in fire or electric shock.

Do not use a damaged power supply cord, plug, or loose outlet when you charge batteries.
This may cause a fire or electric shock.

Do not allow the AC charger to come in contact with the +/- terminals on the battery.
This may cause a fire or electric shock.

Do not force the camera's parts or apply pressure to the camera.
This may cause your camera to malfunction.

Exercise caution when you connect cables or adapters and install batteries and memory cards.
If you force the connectors, improperly connect cables, or improperly install batteries and memory cards, you can damage ports, connectors, and accessories.

Keep cards with magnetic strips away from the camera case.
Information stored on the card may be damaged or erased.

Never use a damaged charger, battery, or memory card.
This may result in electric shock or camera malfunction or cause a fire.

Check that the camera is operating properly before use.
The manufacturer takes no responsibility for any loss of files or damage that may result from camera malfunction or improper use.

You must plug the small end of the USB cable into your camera.
If the cable is reversed, it may damage your files.
The manufacturer is not responsible for any loss of data.

Avoid interference with other electronic devices.
Your camera emits radio frequency (RF) signals that may interfere with unshielded or improperly shielded electronic equipment, such as pacemakers, hearing aids, medical devices, and other electronic devices in homes or vehicles. Consult the manufacturers of your electronic devices to solve any interference problems you experience. To prevent unwanted interference, use only Samsung-approved devices or accessories.

Use your camera in the normal position.
Avoid contact with your camera's internal antenna.

Data transference and your responsibilities

- Data transferred via WLAN could be leaked, so avoid transferring sensitive data in public areas or on open networks.
- The camera manufacturer is not liable for any data transfers that infringe on copyrights, trademarks, intellectual property laws, or public decency ordinances.

Copyright information

- Microsoft Windows and the Windows logo are registered trademarks of the Microsoft Corporation.
- Mac is a registered trademark of the Apple Corporation.
- microSD™, microSDHC™, and microSDXC™ are registered trademarks of the SD Association.
- Wi-Fi®, the Wi-Fi CERTIFIED logo, and the Wi-Fi logo are registered trademarks of the Wi-Fi Alliance.
- Trademarks and trade names used in this manual are the property of their respective owners.

- Camera specifications or contents of this manual may be changed without prior notice due to upgrade of camera functions.
- We recommend using your camera within the country where you purchased.
- You are not allowed to reuse or distribute any part of this manual without prior permission.
- For Open Source License information, refer to the 'OpenSourceInfo.pdf' in the provided CD-ROM.

Outline of the User Manual

Basic functions 13

Learn about your camera's layout, icons, and basic functions for shooting.

Extended functions 37

Learn how to capture a photo and record a video by selecting a mode.

Shooting options 60

Learn how to set the options in Shooting mode.

Playback/Editing 83

Learn how to play back photos or videos, and edit photos or videos. Also, learn how to connect your camera to your computer, photo printer, or TV.

Wireless network (DV300F/DV305F only) 107

Learn to connect to wireless local area networks (WLANs) and use functions.

Settings 128

Refer to options to configure your camera's settings.

Appendixes 134

Get information about error messages, specifications, and maintenance.

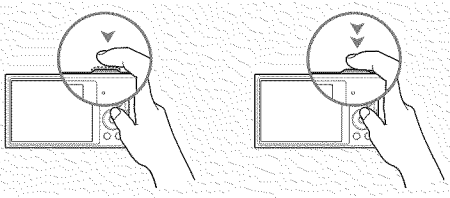
Icons used in this manual

Icon	Function
	Additional information
	Safety warnings and precautions
[ ]	Camera buttons. For example, [**Shutter**] represents the shutter button.
( )	Page number of related information
→	The order of options or menus you must select to perform a step; for example: Select **Face Detection** → **Normal** (represents Select **Face Detection**, and then select **Normal**).
*	Annotation

Expressions used in this manual

Pressing the shutter

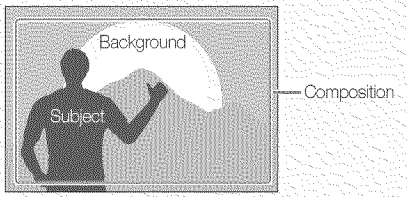
- Half-press [**Shutter**]: Press the shutter halfway down
- Press [**Shutter**]: Press the shutter all the way down



Half-press [**Shutter**] Press [**Shutter**]

Subject, background, and composition

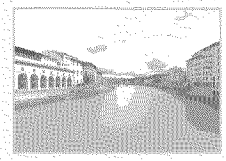
- **Subject**: The main object in a scene, such as a person, animal, or still life
- **Background**: The objects around the subject
- **Composition**: The combination of a subject and background



Exposure (Brightness)

The amount of light that enters your camera determines the exposure. You can alter the exposure by changing the shutter speed, aperture value, or ISO sensitivity. By altering the exposure, your photos will be darker or lighter.

▲ Normal exposure



▲ Overexposure (too bright)

Basic troubleshooting

Learn to solve common problems by setting shooting options.

The subject's eyes appear red.	Red eye occurs when the subject's eyes reflect light from the camera flash. • Set the flash option to **Red-eye** or **Red-eye Fix**. (p. 64) • If the photo has already been captured, select **Red-eye Fix** in the edit menu. (p. 97)
Photos have dust spots.	If dust particles are present in the air, you may capture them in photos when you use the flash. • Turn off the flash or avoid capturing photos in a dusty place. • Set ISO sensitivity options. (p. 66)
Photos are blurred.	Blurring can occur if you capture photos in low light conditions or hold the camera incorrectly. Use the OIS function or half-press [**Shutter**] to ensure the subject is focused. (p. 35)
Photos are blurred when shooting at night.	As the camera tries to let in more light, the shutter speed slows. This can make it difficult to hold the camera steady long enough to capture a clear photo and may result in camera shake. • Select Night Shot mode. (p. 51) • Turn on the flash. (p. 64) • Set ISO sensitivity options. (p. 66) • Use a tripod to prevent your camera from shaking.
Subjects come out too dark because of backlighting.	When the light source is behind the subject or when there is a high contrast between light and dark areas, the subject may appear too dark. • Avoid shooting toward the sun. • Select **Backlight** in Scene mode. (p. 42) • Set the flash option to **Fill in**. (p. 64) • Adjust the exposure. (p. 74) • Set the Auto Contrast Balance (**ACB**) option. (p. 75) • Set the metering option to **Spot** if a subject is in the center of the frame. (p. 75)

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- Children mode ▶ 48
- Beauty Shot mode ▶ 50
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- Continuous, Motion Capture ▶ 78

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Basic functions

Learn about your camera's layout, icons, and basic functions for shooting.

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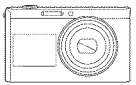
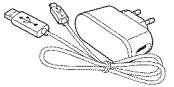
Unpacking

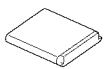
The following items are included in your product box.



Camera

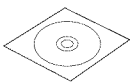


AC adapter/
USB cable

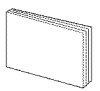


Rechargeable battery

Strap



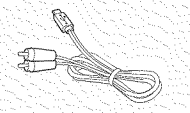
User Manual CD-ROM



Quick Start Guide

Optional accessories

Camera case



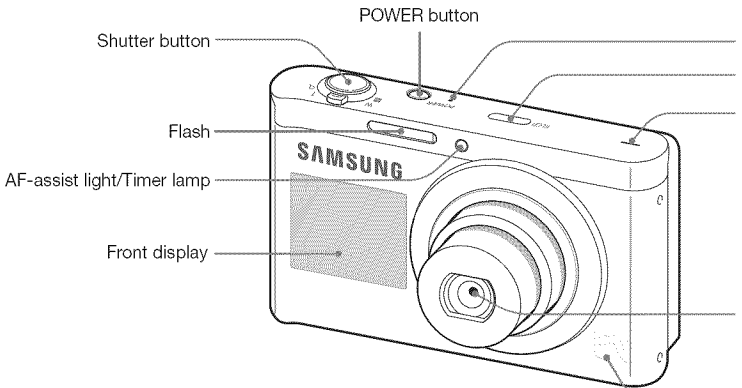
A/V cable

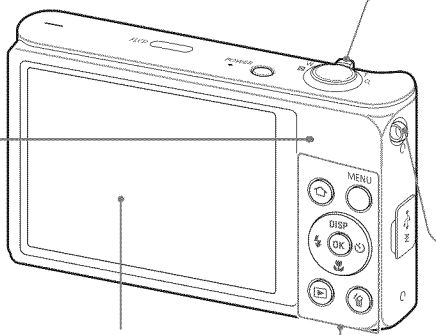
Memory card/Memory card adapter

- The illustrations may differ slightly from the items shipped with your product.
- The items included in the box may differ depending on the model.
- You can purchase optional accessories at a retailer or a Samsung service center. Samsung is not responsible for any problems caused by using unauthorized accessories.

Camera layout

Before you start, familiarize yourself with your camera's parts and their functions.



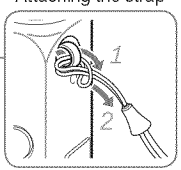


Zoom button
- **In Shooting mode**: Zoom in or out
- **In Playback mode**: Zoom in on part of a photo or view files as thumbnails, or adjust the volume

Status lamp
- **Blinking**: When the camera is saving a photo or video, being read by a computer or printer, when the image is out of focus, or there is a problem charging the battery (On DV300F/DV305F, when the camera is connecting to WLAN or sending a photo)
- **Steady**: When the camera is connected to a computer, charging the battery, or when the image is in focus

Main display

Attaching the strap



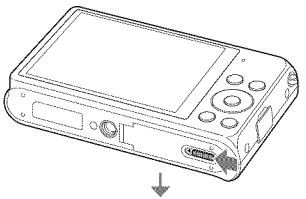
Buttons
(See the table below)

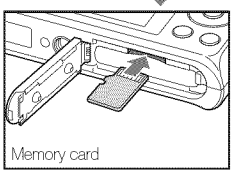
Button	Description
	Access the Home screen.
MENU	Access options or menus.
	Enter Playback mode.
	Delete files in Playback mode.

Button	Description		
		Basic functions	Other functions
DISP	DISP	Change the display option.	Move up
		Change the macro option.	Move down
		Change the flash option.	Move left
		Change the timer option.	Move right
OK	Confirm the highlighted option or menu.		

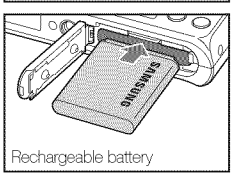
Inserting the battery and memory card

Learn how to insert the battery and an optional memory card into the camera.

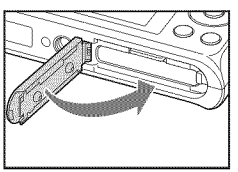


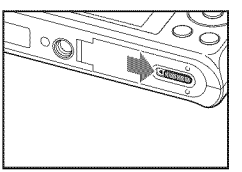


Insert a memory card with the gold-colored contacts facing up.

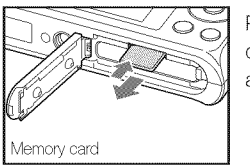


Insert the battery with the Samsung logo facing up.

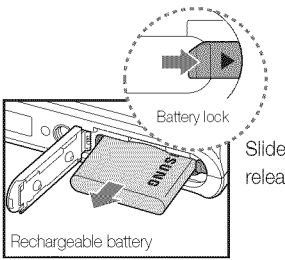




Removing the battery and memory card



Push the card gently until it disengages from the camera, and then pull it out of the slot.



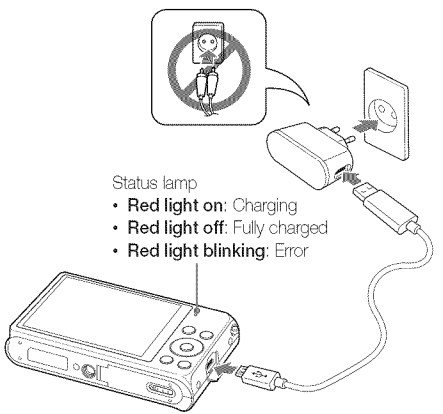
Slide the lock to the right to release the battery.

You can use the internal memory for temporary storage if a memory card is not inserted.

Charging the battery and turning on your camera

Charging the battery

Before you use the camera for the first time, you must charge the battery. Plug the small end of the USB cable into your camera, and then plug the other end of the USB cable into the AC adapter.

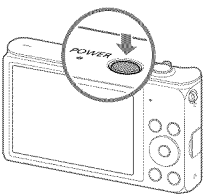


Use only the AC adapter and USB cable supplied with your camera. If you use another AC adapter (such as SAC-48), the camera battery may not charge or work properly.

Turning on your camera

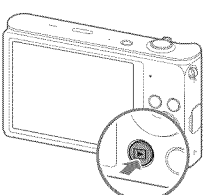
Press [**POWER**] to turn your camera on or off.

- The initial setup screen appears when you turn on the camera for the first time. (p. 19)



Turning on your camera in Playback mode

Press [▶]. The camera turns on and immediately accesses Playback mode.

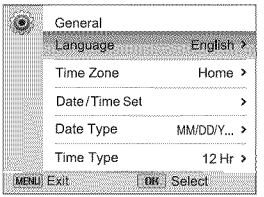


If you turn on your camera by pressing and holding [▶] until the status lamp blinks, the camera does not emit any sounds.

Performing the initial setup

When you turn on your camera for the first time, the initial setup screen appears. Follow the steps below to configure the camera's basic settings.

1 Verify that **Language** is highlighted, and then press [◎] or [**OK**].



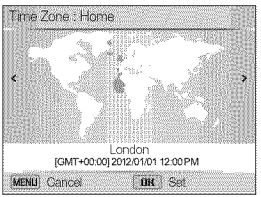
2 Press [**DISP**/🌷] to select a language, and then press [**OK**].

3 Press [🌷] to select **Time Zone**, and then press [◎] or [**OK**].

4 Press [**DISP**/🌷] to select **Home**, and then press [**OK**].

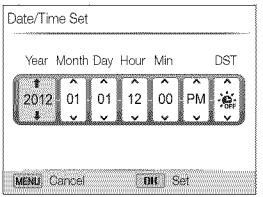
- When you travel to another country, select **Visit**, and then select a new time zone.

5 Press [⚡/◎] to select a time zone, and then press [**OK**] → [**MENU**].



- The screen may differ depending on the language selected.

6 Press [✿] to select **Date/Time Set**, and then press [⏲] or [**OK**].



- The screen may differ depending on the language selected.

7 Press [⚡/⏲] to select an item.

8 Press [**DISP**/✿] to set the date, time, and daylight-saving time, and then press [**OK**].

9 Press [✿] to select **Date Type**, and then press [⏲] or [**OK**].

10 Press [**DISP**/✿] to select a date type, and then press [**OK**].

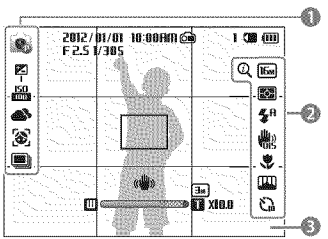
11 Press [✿] to select **Time Type**, and then press [⏲] or [**OK**].

12 Press [**DISP**/✿] to select a time type, and then press [**OK**].

13 Press [**MENU**] to finish the initial setup.

Learning icons

The icons the camera displays on the screen change according to the mode you select or the options you set.



❶ Shooting options (left)

Icon	Description
	Shooting mode
	Exposure value adjusted
	ISO sensitivity
	White balance
	Face detection
	Face tone
	Burst option

❷ Shooting options (right)

Icon	Description
	Intelli zoom on
	Photo resolution
	Video resolution
	Metering
	Frame rate
	Flash
	Sound Alive on
	Optical Image Stabilization (OIS)
	Auto focus option
	Image adjustment (sharpness, contrast, and saturation)
	Timer

❸ Shooting information

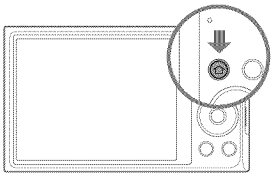
Icon	Description
2012/01/01	Current date
10:00AM	Current time
	Front display is on
1	Available number of photos
	Memory card inserted
	• : Fully charged • : Partially charged • : Empty (Recharge)
F2.5	Aperture value
1/305	Shutter speed
00:10	Available recording time
	Auto focus frame
	Camera shake
	Zoom indicator
	Photo resolution when the Intelli zoom is on
X10.0	Zoom ratio

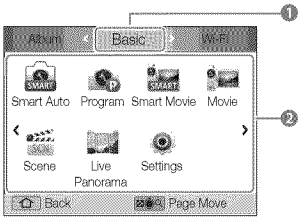
Using the Home screen

You can select a shooting mode or access the settings menu by selecting the icons on the Home screen.

Accessing the Home screen

In Shooting or Playback mode, press [⌂]. Press [⌂] again to return to the previous mode.





No.	Description
❶	Current Home screen • Rotate [**Zoom**] to the left or right to switch to another Home screen. • Press [**DISP**] to scroll to the Home screen name, and then press [ϟ/⏲] to switch to another Home screen. • Press [ϟ/⏲] repeatedly to switch to another Home screen.
❷	Mode icons • Press [**DISP**/✿/ϟ/⏲] to scroll to a desired mode, and then press [**OK**] to access the mode.

Icons on the Home screen

<Basic>

Icon	Description
	Smart Auto: Capture a photo with a scene mode selected automatically by the camera. (p. 38)
	Program: Capture a photo with settings you have adjusted manually. (p. 39)
	Smart Movie: Record a video with a scene mode selected automatically by the camera. (p. 40)
	Movie: Record a video. (p. 41)
	Scene: Capture a photo with options that are preset for a specific scene. (p. 42)
	Live Panorama: Capture and combine a series of photos to create a panoramic image. (p. 43)
	Settings: Adjust settings to match your preferences. (p. 129)

<Wi-Fi> (DV300F/DV305F only)

Icon	Description
	MobileLink: Send photos or videos to a smart phone. (p. 112)
	Remote Viewfinder: Use a smart phone as a remote shutter release and see a preview on your smart phone of an image from your camera. (p. 113)
	Social Sharing: Upload photos or videos to file sharing websites. (p. 115)
	Email: Send photos or videos stored on the camera via email. (p. 117)
	Cloud: Upload photos or videos to a cloud server. (p. 120)
	Auto Backup: Send photos or videos that you captured with the camera to a PC wirelessly. (p. 121)
	TV Link: View photos or videos that you captured with the camera on a widescreen TV. (p. 123)

<Scene>

Icon	Description
	Picture in Picture: Capture a background photo and insert a smaller photo or video into the foreground. (p. 45)
	Self Shot: Use the front display when you capture a self portrait. (p. 46)
	Children: Attract children's attention with a short animation on the front display. (p. 48)
	Jump Shot: Let your subjects know the best moment to jump with a countdown on the front display. (p. 48)
	Beauty Shot: Capture a portrait with options to hide facial imperfections. (p. 50)
	Intelligent Portrait: Save 2 additional portraits automatically using the face detection functions. (p. 51)
	Night Shot: Capture a night scene by adjusting shutter speed. (p. 51)
	Close-up Shot: Capture close-up photos of subjects. (p. 52)

<Magic>

Icon	Description
	Magic Frame: Capture a photo with various frame effects. (p. 53)
	Funny Face: Capture a photo with funny face effects. (p. 54)
	Photo Filter: Capture a photo with various filter effects. (p. 55)
	Movie Filter: Record a video with various filter effects. (p. 56)
	Split Shot: Capture several photos and arrange them with preset layouts. (p. 57)
	Artistic Brush: Capture a photo and save a video that shows how to apply the filter effect. (p. 58)
	Motion Photo: Capture and combine a series of photos, and then select an area to be animated to create a GIF animation. (p. 59)

<Album>

Icon	Description
	Album: View files by category in Smart album. (p. 86)
	Photo Editor: Edit photos with various effects. (p. 95)

Setting Wallpaper

Set wallpaper for the Home screen with the desired image.

1 On the Home screen, scroll to <Basic>.

2 Select ⚙.

3 Select **Display** → **Wallpapers**.

4 Select an option.

Option	Description
Wallpaper Gallery	Select the desired wallpaper from the default gallery.
Album	Set a photo you have captured as wallpaper.

5 Scroll to the desired wallpaper, and then press [**OK**].

- If you select a photo you have captured, you can set a specified area as wallpaper. Rotate [**Zoom**] to the left or right to reduce or enlarge the area. Press [**DISP**/🌷/⚡/⏲] to move the area.

6 Press [**OK**] to save.

You can also set the photo you are viewing as wallpaper by pressing [**MENU**], and then selecting **Set Wallpaper** in Playback mode.

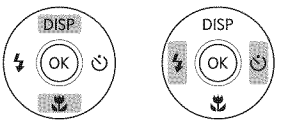
Selecting options or menus

To select an option or a menu, press [**MENU**], and then press [**DISP**/**✿**/**ϟ**/**⏲**] or [**OK**].

1 In Shooting mode, press [**MENU**].

2 Select an option or a menu.

- To move up or down, press [**DISP**] or [**✿**].
- To move left or right, press [**ϟ**] or [**⏲**].



3 Press [**OK**] to confirm the highlighted option or menu.

Going back to the previous menu

Press [**MENU**] to go back to the previous menu.

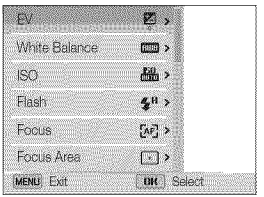
Half-press [**Shutter**] to return to Shooting mode.

For example, to select a White Balance option in Program mode:

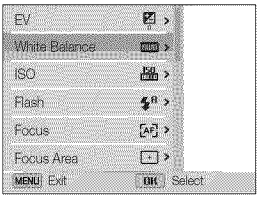
1 On the Home screen, scroll to <Basic>.

2 Select .

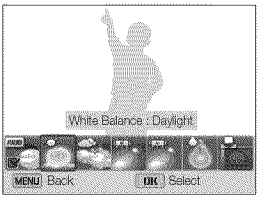
3 Press [**MENU**].



4 Press [**DISP**/] to select **White Balance**, and then press [ ] or [**OK**].



5 Press [/] to select a White Balance option.



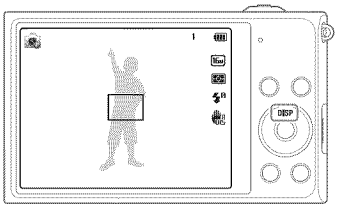
6 Press [**OK**] to save your settings.

Setting the display and sound

Learn how to change the basic display information and sound settings.

Setting the display type

You can select a display type for the Shooting or Playback mode. Each type displays different shooting or playback information. See the table below.



Press [**DISP**] repeatedly to change the display type.

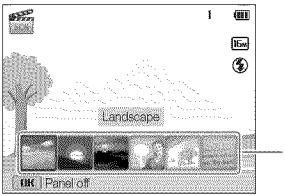
Mode	Display type
Shooting	• Hide all information about shooting options. • Show all information about shooting options.
Playback	• Hide all information about the current file. • Hide all information about the current file except basic information. • Show all information about the current file.

Setting the option display view

You can hide or show the option display appearing in some modes.

Press [**OK**] repeatedly.

- Hide the option display.
- Show the option display.



▲ For example, in Scene mode

Setting the sound

Turn the sound your camera emits when you perform functions on or off.

1 On the Home screen, scroll to **<Basic>**.

2 Select .

3 Select **Sound** → **Beep Sound**.

4 Select an option.

Option	Description
Off	The camera does not emit any sounds.
On	The camera emits sounds.

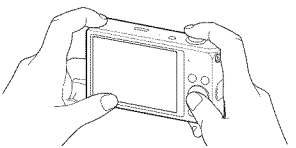
Capturing photos

Learn how to capture photos easily and quickly in Smart Auto mode.

1 On the Home screen, scroll to **<Basic>**.

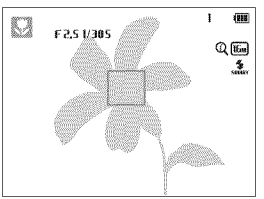
2 Select .

3 Align your subject in the frame.



4 Half-press **[Shutter]** to focus.

- A green frame means the subject is in focus.
- A red frame means the subject is out of focus.



5 Press **[Shutter]** to capture a photo.

6 Press [▶] to view the captured photo.

- To delete the photo, press [🗑], and then select **Yes**.

7 Press [▶] to return to Shooting mode.

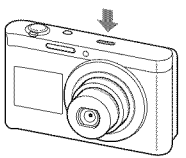
See page 35 for tips to get clearer photos.

Turning on the front display

The front display helps you capture photos while viewing yourself.

In Shooting mode, press [**F.LCD**].

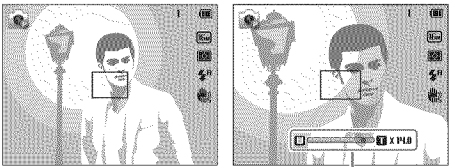
- Press [**F.LCD**] again to turn it off.



- Several buttons are not available when the front display turns on.
- In Self Shot, Children, and Jump Shot modes, the front display will activate automatically.
- When you set timer options, the front display will remain active. (p. 63)
- When you use the camera in brightly lit or sunny areas, you may not be able to see the front display clearly.
- The front display will not activate when you press [**F.LCD**] in Playback mode.
- When the front display is on, the camera consumes more battery power.

Zooming

You can capture close-up photos by adjusting the zoom.

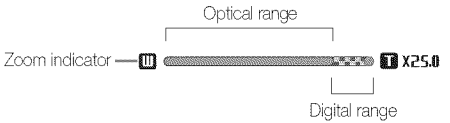


Zoom out Zoom in

The zoom ratio appearing on the screen changes nonlinearly and may differ slightly from the actual zoom ratio.

Digital zoom

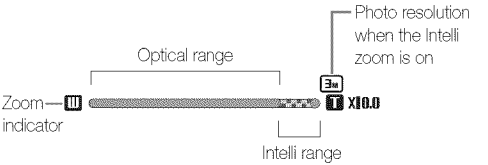
The Digital zoom is supported by default in Shooting mode. If you zoom in on a subject in Shooting mode and the zoom indicator is in the digital range, your camera is using the Digital zoom. By using both the 5X Optical zoom and 5X Digital zoom, you can zoom in up to 25 times.



- The Digital zoom is not available with the Tracking AF option.
- If you capture a photo with the Digital zoom, the photo quality may be lower than normal.

Intelli zoom

If the zoom indicator is in the Intelli range, your camera is using the Intelli zoom. Photo resolution varies according to the zoom rate if you use the Intelli zoom. By using both the Optical zoom and Intelli zoom, you can zoom in up to 10 times.



- Intelli zoom is not available with the Tracking AF option.
- The Intelli zoom helps you capture a photo with less quality deterioration than the Digital zoom. However, the photo quality may be lower than when you use the Optical zoom.
- The Intelli zoom is available only when you set a 4:3 resolution ratio. If you set another resolution ratio with Intelli zoom on, the Intelli zoom will be turned off automatically.

Setting Intelli zoom

1 In Shooting mode, press [**MENU**].

2 Select **Intelli Zoom**.

3 Select an option.

Icon	Description
	Off: The Intelli zoom is deactivated.
	On: The Intelli zoom is activated.

Reducing camera shake (OIS)

Reduce camera shake optically in Shooting mode.

▲ Before correction

▲ After correction

1 In Shooting mode, press [**MENU**].

2 Select **OIS**.

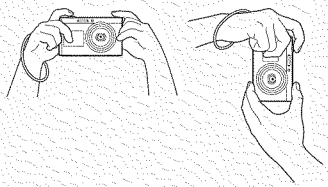
3 Select an option.

Icon	Description
	Off: OIS is deactivated.
	On: OIS is activated.

- OIS may not function properly when:
  - you move your camera to follow a moving subject
  - you use the Digital zoom
  - there is too much camera shake
  - the shutter speed is slow (for example, when you capture night scenes)
  - the battery is low
  - you capture a close-up shot
- If you use the OIS function with a tripod, your images may be blurred by the vibration of the OIS sensor. Deactivate the OIS function when you use a tripod.
- If the camera is hit or dropped, the display will be blurry. If this occurs, turn off the camera, and then turn it on again.

Tips for getting a clearer photo

Holding your camera correctly

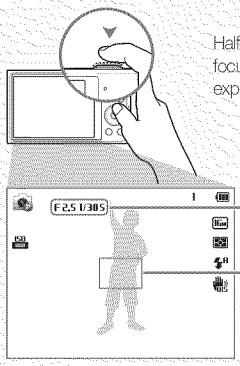


Ensure nothing is blocking the lens, flash, or microphone.

Reducing camera shake

Set the Optical Image Stabilization option to reduce camera shake optically. (p. 33)

Half-pressing the shutter button



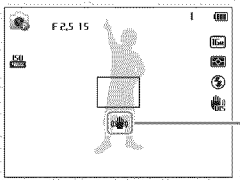
Half-press [**Shutter**] and adjust the focus. The camera adjusts the focus and exposure automatically.

The camera sets the aperture value and shutter speed automatically.

Focus frame

- Press [**Shutter**] to capture the photo if the focus frame appears in green.
- Change the composition and half-press [**Shutter**] again if the focus frame appears in red.

When (hand) is displayed



Camera shake

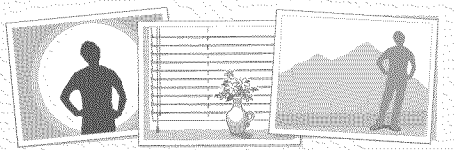
When you shoot in the dark, avoid setting the flash option to **Slow Sync** or **Off**. The aperture remains open longer and it may be harder to hold the camera steady long enough to capture a clear photo.

- Use a tripod or set the flash option to **Fill in**. (p. 64)
- Set ISO sensitivity options. (p. 66)

Preventing your subject from being out of focus

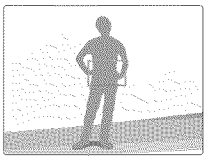
It may be difficult to get your subject in focus when:

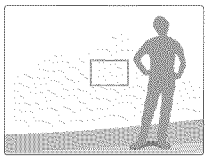
- there is little contrast between the subject and background (for example, when your subject is wearing clothing that is similar in color to the background)
- the light source behind the subject is too bright
- the subject is shiny or reflective
- the subject includes horizontal patterns, such as blinds
- the subject is not positioned in the center of the frame



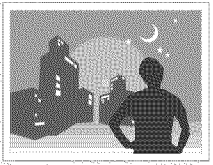
Using the focus lock

Half-press [**Shutter**] to focus. When the subject is in focus, you can reposition the frame to change the composition. When you are ready, press [**Shutter**] to capture your photo.



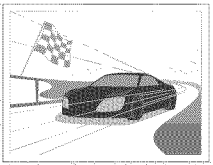


- When you capture photos in low light



Turn on the flash. (p. 64)

- When subjects are moving rapidly



Use the Continuous or Motion Capture function. (p. 78)

Extended functions

Learn how to capture a photo and record a video by selecting a mode.

Using Basic modes 38
- Using the Smart Auto mode 38
- Using the Program mode 39
- Using the Smart Movie mode 40
- Using the Movie mode 41
- Using the Scene mode 42
- Using the Live Panorama mode 43

Using Scene modes 45
- Using the Picture in Picture mode 45
- Using the Self Shot mode 46
- Using the Children mode 48
- Using the Jump Shot mode 48
- Using the Beauty Shot mode 50
- Using the Intelligent Portrait mode 51
- Using the Night Shot mode 51
- Using the Close-up Shot mode 52

Using Magic modes 53
- Using the Magic Frame mode 53
- Using the Funny Face mode 54
- Using the Photo Filter mode 55
- Using the Movie Filter mode 56
- Using the Split Shot mode 57
- Using the Artistic Brush mode 58
- Using the Motion Photo mode 59

Using Basic modes

Capture photos or record videos using basic modes. You can also use the Scene mode and the Live Panorama mode.

Using the Smart Auto mode

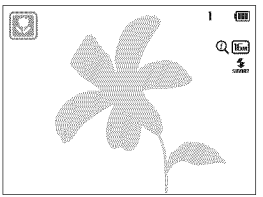
In Smart Auto mode, your camera automatically chooses the appropriate camera settings based on the type of scene it detects. The Smart Auto mode is helpful if you are not familiar with the camera settings for various scenes.

1 On the Home screen, scroll to <Basic>.

2 Select .

3 Align your subject in the frame.

- The camera automatically selects a scene. An appropriate scene icon appears at the top left of the screen. The icons are listed below.



Icon	Description
	Landscapes
	Scenes with bright white backgrounds

Icon	Description
	Landscapes at night
	Portraits at night
	Landscapes with backlighting
	Portraits with backlighting
	Portraits
	Close-up photos of objects
	Close-up photos of text
	Sunsets
	Blue skies
	Forested areas
	Close-up photos of colorful subjects
	Camera is stabilized or on a tripod (when shooting in the dark)
	Actively moving subjects
	Fireworks (when using a tripod)

4 Half-press [**Shutter**] to focus.

5 Press [**Shutter**] to capture the photo.

- If the camera does not recognize an appropriate scene mode, it uses the default settings for Smart Auto mode.
- Even if it detects a face, the camera may not select a portrait mode depending on the subject's position or lighting.
- The camera may not select the correct scene depending on the shooting conditions, such as camera shake, lighting, or distance to the subject.
- Even if you use a tripod, the camera may not detect the mode if the subject is moving.
- In Smart Auto mode, the camera consumes more battery power, because it changes settings often to select appropriate scenes.

Using the Program mode

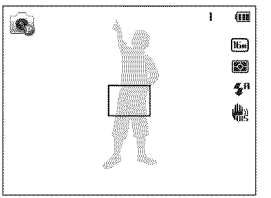
In Program mode, you can set most options, except the shutter speed and aperture value, which the camera sets automatically.

1 On the Home screen, scroll to <**Basic**>.

2 Select .

3 Set the desired options.

- For a list of options, refer to "Shooting options". (p. 60)



4 Align your subject in the frame, and then half-press [**Shutter**] to focus.

5 Press [**Shutter**] to capture the photo.

Using the Smart Movie mode

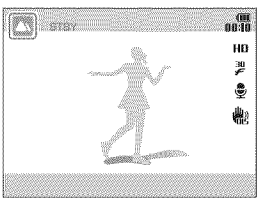
In Smart Movie mode, your camera automatically chooses the appropriate camera settings based on the scene it has detected.

1 On the Home screen, scroll to <Basic>.

2 Select .

3 Align your subject in the frame.

- The camera automatically selects a scene. An appropriate scene icon will appear at the top left of the screen.



Icon	Description
	Landscapes
	Sunsets
	Blue skies
	Forested areas

4 Press [**Shutter**] to start recording.

5 Press [**Shutter**] again to stop recording.

- If the camera does not recognize an appropriate scene mode, it uses the default settings for Smart Movie mode.
- The camera may not select the correct scene depending on the shooting conditions, such as camera shake, lighting, and distance to the subject.

Using the Movie mode

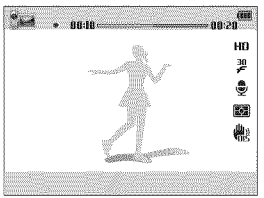
In Movie mode, you can customize settings to record HD videos of up to 20 minutes in length. The camera saves recorded videos as MP4 (H.264) files.

- H.264 (MPEG-4 part10/AVC) is a high-compression video format established by the international standards organizations ISO-IEC and ITU-T.
- Some memory cards may not support high definition recording. If your card does not, set a lower resolution.
- Memory cards with slow writing speeds will not support high-resolution videos. To record high-resolution videos, use memory cards with faster write speeds.
- If you activate the OIS function while recording a video, the camera may record the operating sound of the OIS function.
- If you use the zoom function when recording a video, the camera may record the noise of the zoom operating. To decrease zoom noise, use the Sound Alive function. (p. 80)

1. On the Home screen, scroll to **<Basic>**.
2. Select .
3. Set desired options.
   - For a list of options, refer to "Shooting options". (p. 60)
4. Press [**Shutter**] to start recording.
5. Press [**Shutter**] again to stop recording.

Pause recording

The camera allows you to temporarily pause a video while recording. With this function, you can record separate scenes as a single video.



- Press [OK] to pause while recording.
- Press [OK] to resume.

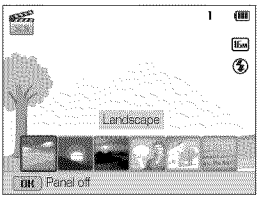
Using the Scene mode

In Scene mode, you can capture a photo with options that are preset for a specific scene.

1 On the Home screen, scroll to <Basic>.

2 Select SCENE.

3 Select a scene.



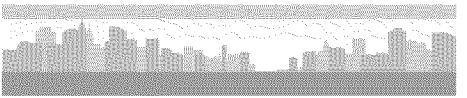
Option	Description
Landscape	Capture still-life scenes and landscapes.
Sunset	Capture scenes at sunset, with natural-looking reds and yellows.
Dawn	Capture scenes at sunrise.
Backlight	Capture backlit subjects.
Beach & Snow	Reduce underexposure of subjects caused by sunlight reflected from sand or snow.
Text	Clearly capture text from printed or electronic documents.

4 Align your subject in the frame, and then half-press [**Shutter**] to focus.

5 Press [**Shutter**] to capture the photo.

Using the Live Panorama mode

In Live Panorama mode, you can capture a wide panoramic scene in a single photo. Capture and combine a series of photos to create a panoramic image.



▲ Shooting example

1 On the Home screen, scroll to <**Basic**>.

2 Select .

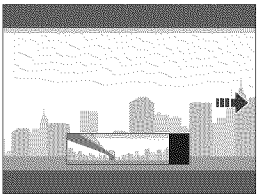
3 Align your subject in the frame, and then half-press [**Shutter**] to focus.

- Align the camera with the far left or the far right, or very top or bottom, of the scene you want to capture.

4 Press and hold [**Shutter**] to start shooting.

5 With [**Shutter**] pressed, slowly move the camera in the direction that will let it capture the rest of the panorama.

- When the viewfinder is aligned with the next scene, the camera captures the next photo automatically.



6 When you are finished, release [**Shutter**].

- When you have captured all the necessary shots, the camera combines them into one panoramic photo.

- For best results when capturing panoramic photos, avoid the following:
  - moving the camera too quickly or too slowly
  - moving the camera too little to capture the next image
  - moving the camera at irregular speeds
  - shaking the camera
  - changing the camera direction while capturing a photo
  - shooting in dark places
  - capturing moving subjects nearby
  - shooting conditions where the brightness or color of light is changing
- Selecting Live Panorama mode will disable the digital and optical zoom functions. If you select Live Panorama mode while the lens is zoomed in, the camera automatically zooms out to the default position.
- In Live Panorama mode, some shooting options are not available.
- The camera may stop shooting due to the shooting composition or movement within the scene.
- In Live Panorama mode, your camera may not capture the last scene in its entirety if you stop moving the camera exactly where you want the scene to end. To capture the entire scene, move your camera slightly beyond the point where you want the scene to end.

Using Scene modes

Capture photos by using the front display or selecting appropriate modes for various scenes.

Using the Picture in Picture mode

In Picture in Picture mode, you can capture or select a full-sized background photo, and then insert a smaller photo or video into the foreground.

1 On the Home screen, scroll to <Scene>.

2 Select .

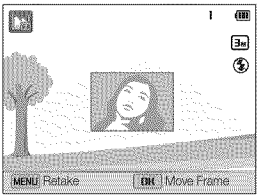
- To set the final video size when inserting a video, press [MENU], and then select **Movie Size** → a desired video size.

3 Half-press [Shutter] to focus, and then press [Shutter] to capture a background photo.

- To select a background photo from your saved photos, press [MENU], and then select **Open Image** → a desired photo. You cannot select a video file or a photo captured in Live Panorama mode.

4 Press [OK] to set the photo as the background image.

- To recapture a background photo, press [MENU].



5 Press [OK], and then press [DISP/✿/ϟ/⏲] to change the insertion point.

6 Press [OK], and then press [DISP/✿/ϟ/⏲] to change the insertion size.

7 Press [OK] to save the setting.

8 Half-press [**Shutter**] to focus, and then press [**Shutter**] to capture and insert a photo.

- The insertion window appears larger when you half-press [**Shutter**], so that you can determine whether or not the subject is in focus.
- To record a video, press [●]. To stop recording and insert the video, press [●] again.

- When capturing background photos, the resolution is automatically set to [3M] and all photos captured are saved.
- The final Picture-in-picture photos or videos are saved as one combined file and the inserted photos or videos are not saved separately.
- When inserting an image, the resolution for the combined file is automatically set to [3M].
- When inserting a video, the resolution for the combined file is automatically set to **VGA** or smaller.
- When capturing a background photo, a vertical photo captured in the vertical position is displayed horizontally without auto rotate.
- The maximum size of the insertion window is 1/4 of the screen, and the aspect ratio stays the same when changing the size.
- The maximum length of video that can be inserted is 20 minutes.
- In Picture in Picture mode, the available zoom range may be less than in other shooting modes.
- In Picture in Picture mode, you cannot set the Sound Alive options.
- When you select a background photo from your saved photos, black bars may appear at the edges of the image, depending on the aspect ratio.

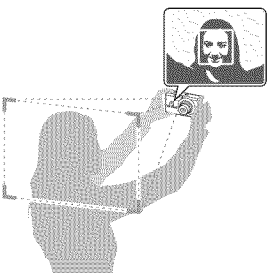
Using the Self Shot mode

Conveniently capture photos of yourself with the front display.

1 On the Home screen, scroll to **<Scene>**.

2 Select .

- Your camera will automatically detect your face and display a frame to indicate the detected face.



3 Half-press [**Shutter**] to focus.

4 Press [**Shutter**] to capture the photo.

In Self Shot mode, the front display will activate automatically.

Capturing an Easy Self Shot

If you press [**F.LCD**] when the power is off, the front display turns on in Easy Self Shot mode. Because the main display is off, the camera consumes less battery power and you can prevent others from viewing the main display.

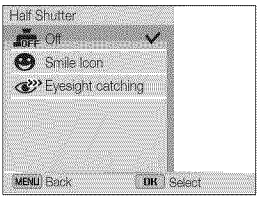
- The camera will turn off when you press [**F.LCD**] again or press [**POWER**].
- The front display will turn off and the main display will turn on when you press [⌂].

Customizing the front display

You can let subjects know when to smile or attract their attention to the lens.

1 In Shooting mode, press [**MENU**].

2 Select **Half Shutter** → an option.



Icon	Description
OFF	**Off**: No icon will appear on the front display.
	Smile Icon: Set an icon to appear that prompts the subject to smile.
	Eyesight catching: Set an icon to appear to attract the subject's attention to the lens.

Using the Children mode

The Children mode attracts children by showing a short animation on the front display.

1 On the Home screen, scroll to <Scene>.

2 Select .
- The front display will activate and play the preset animation.

3 Press [MENU].

4 Select Background Music → an option.

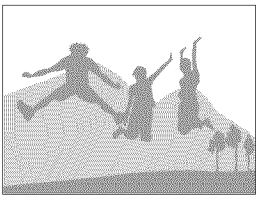
5 Align your subject in the frame, and then half-press [Shutter] to focus.

6 Press [Shutter] to capture the photo.

You can download animations for the front display from Intelli-studio. (p. 102)

Using the Jump Shot mode

Capture a photo of people jumping. An icon will appear on the front display to tell your subjects when to jump.



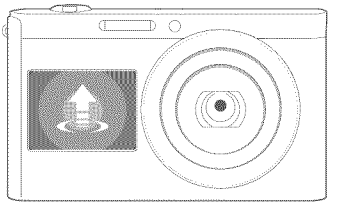
1 On the Home screen, scroll to <Scene>.

2 Select .
- To capture animated jump shots, refer to "Capturing animated jump shots". (p. 49)

3 Press [Shutter].
- The AF-assist light/timer lamp blinks.
- The front display will start a countdown a few seconds before shooting.

4 Jump when the jump icon appears on the front display.

- The camera will capture multiple shots.



- If you are capturing photos using the jump shot timer in low light conditions or indoors, photos may appear dark.
- Use a tripod to prevent your camera from shaking.

Capturing animated jump shots

Capture multiple jump shots, and then save them as a GIF animation. This feature is available only when you insert a memory card into the camera.

1 In Jump Shot mode, press [**MENU**].

2 Select **Jump Shot** → **GIF animation**.

- The camera saves an animated GIF and one JPG of the middle scene from the GIF file. You cannot view the JPG file on your camera. To view it, connect your camera to a PC. (p. 101)

- If you select **GIF animation**, the resolution is automatically set to **VGA**.
- If you select **GIF animation**, it may take longer to save files.
- Use a tripod to prevent your camera from shaking.

Using the Beauty Shot mode

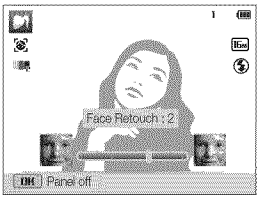
In Beauty Shot mode, you can capture a portrait with options to hide facial imperfections.

1 On the Home screen, scroll to **<Scene>**.

2 Select .

3 Press [ϟ/ⓒ] to adjust **Face Retouch**.

- For example, increase the face retouch setting to hide more imperfections.

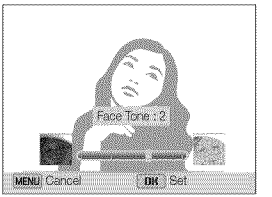


4 Press [**MENU**].

5 Select **Face Tone**.

6 Press [ϟ/ⓒ] to adjust **Face Tone**.

- For example, increase the face tone setting to make skin appear lighter.



7 Press [**OK**] to save the setting.

8 Align your subject in the frame, and then half-press [**Shutter**] to focus.

9 Press [**Shutter**] to capture the photo.

Using the Intelligent Portrait mode

In Intelligent Portrait mode, the camera detects the face of a subject and automatically enlarges the face, crops the photo around the face, and then saves the original photo and 2 portraits in 3 separate files. You can use Intelligent Portrait mode to extract and save close-up portraits of a single individual from landscape shots.

1 On the Home screen, scroll to **<Scene>**.

2 Select .

3 Align your subject in the frame, and then half-press [**Shutter**] to focus.

4 Press [**Shutter**] to capture the photo.

- The original photo and 2 cropped photos are saved under consecutive file names.

- The Intelligent Portrait mode will save only the original photo if:
  - no face is detected
  - more than 2 faces are detected
  - the detected facial area is larger than a certain ratio
- The cropped photos maintain the same aspect ratio (16:9) as the original or the inverse aspect ratio (9:16).
- In Intelligent Portrait mode, it may take longer to save files.

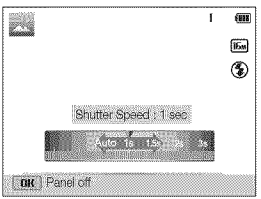
Using the Night Shot mode

In Night Shot mode, you can use a slow shutter speed to extend the time the shutter stays open. Increase the aperture value to prevent overexposure.

1 On the Home screen, scroll to **<Scene>**.

2 Select .

3 Press [⚡/⏲] to adjust the shutter speed.



4 Align your subject in the frame, and then half-press [**Shutter**] to focus.

5 Press [**Shutter**] to capture the photo.

Use a tripod to prevent blurry photos.

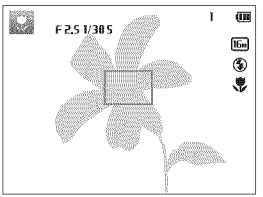
Using the Close-up Shot mode

In Close-up Shot mode, you can capture close-up photos of subjects, such as flowers or insects.

1 On the Home screen, scroll to **<Scene>**.

2 Select .

3 Align your subject in the frame, and then half-press [**Shutter**] to focus.



4 Press [**Shutter**] to capture the photo.

Using Magic modes

Capture a photo or record a video with various effects.

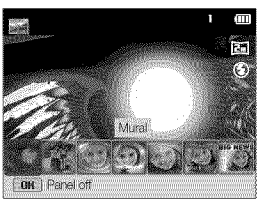
Using the Magic Frame mode

In Magic Frame Shot mode, you can apply various frame effects to your photos. The shape and the feel of the photos will change according to the frame you select.

1 On the Home screen, scroll to <Magic>.

2 Select .

3 Select a desired frame.



4 Align your subject in the frame, and then half-press [**Shutter**] to focus.

5 Press [**Shutter**] to capture the photo.

In Magic Frame mode, the resolution is automatically set to .

Using the Funny Face mode

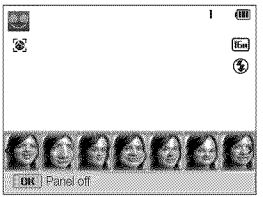
Capture a photo with effects that distort the face.

1 On the Home screen, scroll to **<Magic>**.

2 Select .

3 Aim the camera at a face.

4 Select a desired effect.



5 Press [**MENU**].

6 Select **Distortion Level**.

7 Press [**ϟ**/**ⓘ**] to adjust **Distortion Level**.

8 Press [**OK**] to save the setting.

9 Half-press [**Shutter**] to focus.

10 Press [**Shutter**] to capture the photo.

- The Funny Face mode does not work if no face is detected.
- When several faces are detected, it is applied to the closest face only.

Using the Photo Filter mode

Apply various filter effects to your photos to create unique images.

Miniature

Vignetting

Fish-eye

Sketch

1 On the Home screen, scroll to <Magic>.

2 Select .

3 Select an effect.

Option	Description
Miniature	Apply a tilt-shift effect to make the subject appear in miniature.
Vignetting	Apply the retro-looking colors, high contrast, and strong vignette effect of Lomo cameras.
Ink Painting	Apply a watercolor painting effect.
Oil Painting	Apply an oil painting effect.
Cartoon	Apply a cartoon painting effect.
Cross Filter	Add lines that radiate outward from bright objects to imitate the visual effect of a cross filter.
Sketch	Apply a pen sketch effect.
Soft Focus	Hide facial imperfections or apply dreamy effects.
Fish-eye	Blacken the edges of the frame and distort objects to imitate the visual effect of a fisheye lens.
Old Film	Apply a vintage film effect.
Half Tone Dot	Apply a halftone effect.
Classic	Apply a black and white effect.
Retro	Apply a sepia tone effect.
Zooming Shot	Blur the edges of a photo to emphasize the subjects in the center.

4 Align your subject in the frame, and then half-press [**Shutter**] to focus.

5 Press [**Shutter**] to capture a photo.

Depending on the option you select, the resolution may change to 5M or smaller automatically.

Using the Movie Filter mode

Apply various filter effects to your videos to create unique images.

1 On the Home screen, scroll to <**Magic**>.

2 Select .

3 Select an effect.

Option	Description
Miniature	Apply a tilt-shift effect to make the subject appear in miniature.
Vignetting	Apply the retro-looking colors, high contrast, and strong vignette effect of Lomo cameras.
Half Tone Dot	Apply a halftone effect.
Sketch	Apply a pen sketch effect.
Fish-eye	Distort close objects to imitate the visual effect of a fisheye lens.
Classic	Apply a black and white effect.
Retro	Apply a sepia tone effect.
Palette Effect 1	Create a vivid look with sharp contrast and strong color.
Palette Effect 2	Make scenes clean and clear.
Palette Effect 3	Apply a soft brown tone.
Palette Effect 4	Create a cold and monotone effect.

4 Press [**Shutter**] to start recording.

5 Press [**Shutter**] again to stop recording.

- If you select **Miniature**, the miniature recording time is also displayed and is shorter than the real recording time.
- If you select **Miniature**, you cannot record the video sound.
- Depending on the option you select, the recording speed may change to 15 and the recording resolution may change to VGA or smaller automatically.

Using the Split Shot mode

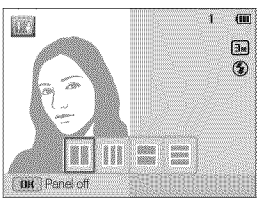
In Split Shot mode, you can capture several photos and arrange them with preset layouts.

1 On the Home screen, scroll to <Magic>.

2 Select .

3 Select a split style.

- To adjust the sharpness of the dividing line, press [MENU], and then select **Line Blur** → a desired value.
- To apply a Smart Filter effect to part of the shot, press [MENU], and then select **Smart Filter** → a desired option. You can apply different Smart Filter effects to each part of the shot.



4 Align your subject in the frame, and then half-press [Shutter] to focus.

5 Press [Shutter] to capture a photo.

- Repeat steps 4 and 5 to capture the rest of the photos.
- To recapture a photo, press [ ].

- In Split Shot mode, the resolution is automatically set to 3M or smaller.
- In Split Shot mode, the available zoom range may be less than in other shooting modes.

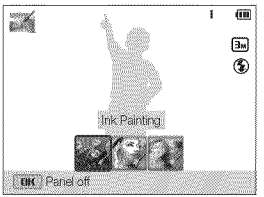
Using the Artistic Brush mode

In Artistic Brush mode, you can capture a photo, and then view a video that shows how to apply the filter effect.

1 On the Home screen, scroll to **<Magic>**.

2 Select .

3 Select a filter.



Option	Description
Ink Painting	Apply a watercolor painting effect.
Cartoon	Apply a cartoon painting effect.
Sketch	Apply a pen sketch effect.

4 Align your subject in the frame, and then half-press [**Shutter**] to focus.

5 Press [**Shutter**] to capture a photo.

- After capturing the photo, the video that shows how to apply the filter will begin automatically.

- In Artistic Brush mode, the resolution is automatically set to 3M or smaller.
- In Artistic Brush mode, both the photo with the filter effect and the video that shows how to apply the filter effect are saved.
- In Artistic Brush mode, the available zoom range may be less than in other shooting modes.
- In Artistic Brush mode, it may take longer to save files.
- You cannot upload a video captured in Artistic Brush mode via the wireless networking feature on your camera. (DV300F/DV305F)

Using the Motion Photo mode

In Motion Photo mode, you can capture and combine a series of photos, and then select an area to be animated to create a GIF animation. This mode is available only when you insert a memory card into the camera.

1 On the Home screen, scroll to <Magic>.

2 Select .

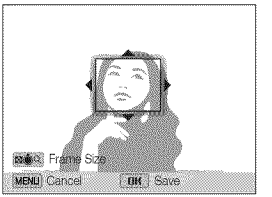
3 Align your subject in the frame, and then half-press [Shutter] to focus.

4 Press [Shutter] to capture the photo.

- The camera captures multiple photos while the status lamp is blinking.

5 Press [DISP/✿/ϟ/◷] to scroll to an area to be animated.

6 Rotate [Zoom] to the left or right to reduce or enlarge the area.



7 Press [OK] to save the photo.

- The camera saves an animated GIF and one JPG of the first scene from the GIF file. You cannot view the JPG file on your camera. To view it, connect your camera to a PC. (p. 101)

- In Motion Photo mode, the resolution is automatically set to VGA.
- Use a tripod to prevent your camera from shaking.
- In Motion Photo mode, it may take longer to save files.

Shooting options

Learn how to set the options in Shooting mode.

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Selecting a resolution and quality

Learn how to change the image resolution and quality settings.

Selecting a resolution

As you increase the resolution, your photo or video will include more pixels, so it can be printed on larger paper or displayed on a larger screen. When you use a high resolution, the file size will also increase.

Setting the photo resolution

1 In Shooting mode, press [**MENU**].

2 Select **Photo Size**.

3 Select an option.

Icon	Description
16M	**4608 X 3456**: Print on A1 paper.
14M	**4608 X 3072**: Print on A1 paper in wide ratio (3:2).
12M	**4608 X 2592**: Print on A1 paper in panorama ratio (16:9) or play back on an HDTV.
10M	**3648 X 2736**: Print on A2 paper.
5M	**2592 X 1944**: Print on A4 paper.
3M	**1984 X 1488**: Print on A5 paper.
2M	**1920 X 1080**: Print on A5 paper in panorama ratio (16:9) or play back on an HDTV.
1M	**1024 X 768**: Attach to an email.

Setting the video resolution

1 In Video Shooting mode, press [**MENU**].

2 Select **Movie Size**.

3 Select an option.

Icon	Description
HD	**1280 X 720**: HD files to play back on an HDTV.
VGA	**640 X 480**: SD files to play back on an analog TV.
QVGA	**320 X 240**: Post on a web page.
240 WEB	**For Sharing** (DV300F/DV305F only): Post on a website using the wireless network (30 seconds maximum).

Selecting an image quality

Set the photo and video quality settings. Higher image quality settings will result in larger file sizes.

Setting the photo quality

The camera compresses and saves the photos you capture in the JPEG format.

1 In Shooting mode, press [**MENU**].

2 Select **Quality**.

3 Select an option.

Icon	Description
SF	**Super Fine**: Capture photos in super high quality.
F	**Fine**: Capture photos in high quality.
N	**Normal**: Capture photos in normal quality.

Setting the video quality

The camera compresses and saves the videos you record in MP4 (H.264) format.

1 In Video Shooting mode, press [**MENU**].

2 Select **Frame Rate**.

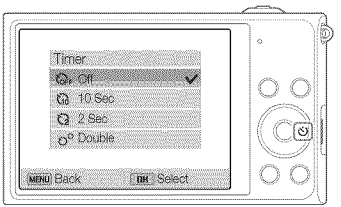
3 Select an option.

Icon	Description
30 F	**30 FPS**: Record 30 frames per second.
15 F	**15 FPS**: Record 15 frames per second.

Using the timer

Learn how to set the timer to delay shooting.

1 In Shooting mode, press [⏲].



2 Select an option.

Icon	Description
	Off: The timer is not active.
	10 Sec: Capture a photo after a 10-second delay.
	2 Sec: Capture a photo after a 2-second delay.
	Double: Capture one photo after a 10-second delay and another photo after a 2-second delay.

Available options may differ depending on the shooting conditions.

3 Press [**Shutter**] to start the timer.

- The AF-assist light/timer lamp blinks. The camera will automatically capture a photo after the specified time has elapsed.
- The front display will start a countdown before shooting.

- Press [**Shutter**] or [⏲] to cancel the timer.
- Depending on the Face Detection options you selected, the timer function may not be available.
- In some modes, you can also set the timer option by pressing [**MENU**], and then selecting **Timer**.

Shooting in the dark

Learn how to capture photos at night or in low light conditions.

Preventing red-eye

If the flash fires when you capture a photo of a person in the dark, a red glow may appear in the person's eyes. To prevent this, select **Red-eye** or **Red-eye Fix**. Refer to flash options in "Using the flash."

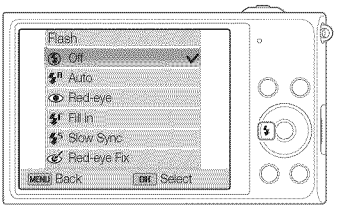
▲ Before correction

▲ After correction

Using the flash

Use the flash when you capture photos in the dark or when you need more light in your photos.

1 In Shooting mode, press [ ].



2 Select an option.

Icon	Description
	Off: • The flash will not fire. • The camera will display the shake warning when you are shooting in low light.
SMART	**Auto**: The camera will select a proper flash setting for the scene it detects in Smart Auto mode.
	Auto: The flash will fire automatically when the subject or background is dark.

Icon	Description
	Red-eye:
	• The flash will fire twice when the subject or background is dark to reduce the red-eye effect.
	• There is an interval between the 2 bursts of the flash. Do not move until the flash fires a second time.
	Fill in:
	• The flash always fires.
	• The camera automatically adjusts light intensity.
	Slow Sync:
	• The flash fires and the shutter stays open longer.
	• This option is recommended when you want to capture more ambient light to reveal more details in the background.
	• Use a tripod to prevent your photos from blurring.
	• The camera will display the shake warning when you are shooting in low light.
	Red-eye Fix:
	• The flash fires twice when the subject or background is dark. The camera corrects red-eyes through its advanced software analysis.
	• There is an interval between the 2 bursts of the flash. Do not move until the flash fires a second time.

Available options may differ depending on the shooting conditions.

- Flash options are not available if you set burst options or select **Blink Detection**.
- Make sure that your subjects are within the recommended distance from the flash. (p. 150)
- If light from the flash is reflected or there is a substantial amount of dust in the air, tiny spots may appear in your photo.
- In some modes, you can also set the flash option by pressing [**MENU**], and then selecting **Flash**.

Adjusting the ISO sensitivity

The ISO sensitivity is the measure of a film's sensitivity to light as defined by the International Organization for Standardization (ISO). The higher ISO sensitivity you select, the more sensitive to light your camera becomes. Use a higher ISO sensitivity to capture better photos and reduce camera shake when not using the flash.

1 In Shooting mode, press [**MENU**].

2 Select **ISO**.

3 Select an option.

- Select ISO AUTO to use an appropriate ISO sensitivity based on the brightness of the subject and lighting.

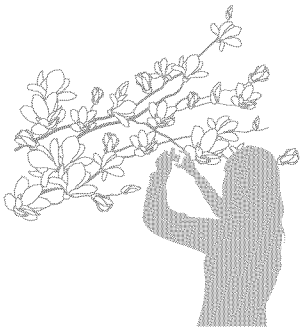
Higher ISO sensitivities may result in more image noise.

Changing the camera's focus

Learn how to adjust the camera's focus to suit the subject and the shooting conditions.

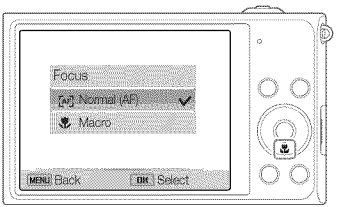
Using macro

Use macro to capture close-up photos of subjects, such as flowers or insects.



- Try to hold the camera firmly to prevent blurry photos.
- Turn off the flash if the distance to the subject is less than 15.7 in. (40 cm).

1 In Shooting mode, press [🌷].



2 Select an option.

Icon	Description
AF	**Normal (AF)**: Focus on a subject farther than 32 in. (80 cm) away. Farther than 98 in. (250 cm) away when you use the zoom.
🌷	**Macro**: Focus on a subject that is 2–32 in. (5–80 cm) from the camera. 39–98 in. (100–250 cm) when you use the zoom.
AUTO 🌷	**Auto Macro**: • Focus on a subject farther than 2 in. (5 cm) away. Farther than 39 in. (100 cm) away when you use the zoom. • It is set automatically in some shooting modes.

Available options may differ depending on the shooting conditions.

In some modes, you can also set the focus option by pressing [MENU], and then selecting **Focus**.

Using tracking auto focus

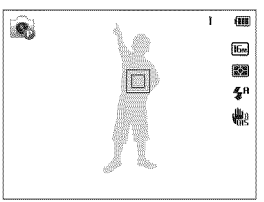
Tracking AF allows you to track and auto focus on your subject, even when you are moving.

1 In Shooting mode, press [**MENU**].

2 Select **Focus Area** → **Tracking AF**.

3 Focus on the subject you want to track, and then press [**OK**].

- A focus frame appears on the subject and follows the subject as you move the camera.



- The white frame means that your camera is tracking the subject.
- When you half-press [**Shutter**], the green frame means that your subject is in focus.

4 Press [**Shutter**] to capture the photo.

- If you do not select a focus area, the focus frame will appear in the center of the screen.
- Tracking a subject may fail when:
  - the subject is too small
  - the subject moves excessively
  - the subject is backlit or you are shooting in a dark place
  - colors or patterns on the subject and the background are the same
  - the subject includes horizontal patterns, such as blinds
  - the camera shakes excessively
- When tracking a subject fails, the focus frame will appear as a white single-line frame (▭).
- If the camera fails to track the subject, you must reselect the subject to track.
- If the camera fails to focus, the focus frame will change to a red single-line frame (▭).
- If you use this function, you cannot set Face Detection options, Timer options, Burst options, and Intelli zoom.

Adjusting the focus area

You can get clearer photos by selecting an appropriate focus area according to your subject's location in the scene.

1 In Shooting mode, press [MENU].

2 Select **Focus Area**.

3 Select an option.

Icon	Description
[+]	**Center AF**: Focus on the center of the frame (suitable when subjects are located at or near the center).
[▦]	**Multi AF**: Focus on one or more of 9 possible areas.
[face]	**Tracking AF**: Focus on and track the subject. (p. 68)

Available shooting options may differ depending on the shooting conditions.

Using Face Detection

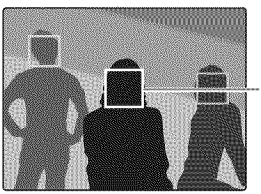
If you use Face Detection options, your camera can automatically detect a human face. When you focus on a human face, the camera adjusts the exposure automatically. Use **Blink Detection** to detect closed eyes or **Smile Shot** to capture a smiling face. You can also use **Smart Face Recognition** to register faces and prioritize the focus on them.

- When your camera detects a face, it tracks the detected face automatically.
- Face Detection may not be effective when:
  - the subject is far from the camera (The focus frame will appear orange for Smile Shot and Blink Detection.)
  - it is too bright or too dark
  - the subject is not facing the camera
  - the subject is wearing sunglasses or a mask
  - the subject's facial expression changes drastically
  - the subject is backlit or the lighting conditions are unstable
- Face Detection is not available when you set the Tracking AF.
- Depending on the shooting options you selected, available Face Detection options may differ.
- Depending on the Face Detection options you selected, the timer function may not be available.
- When you set Face Detection options, the AF area is automatically set to Multi AF.
- Depending on the Face Detection options you selected, Burst options may not be available.
- When you set Smart Face Recognition option and capture photos of detected faces, they will be registered in the face list.
- You can view registered faces in order of priority in Playback mode. (p. 86) Even though faces are registered successfully, they may not be classified in Playback mode.
- A face detected with Smart Face Recognition option may not appear in the face list or Smart Album.

Detecting faces

Your camera automatically detects up to 10 human faces in one scene.

1. In Shooting mode, press [**MENU**].
2. Select **Face Detection** → **Normal**.



The face nearest the camera or nearest the center of the scene appears in a white focus frame and the rest of the faces appear in gray focus frames.

The closer you are to the subjects, the quicker your camera will detect faces.

Capturing a smile shot

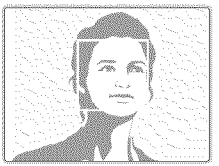
The camera automatically releases the shutter when it detects a smiling face.

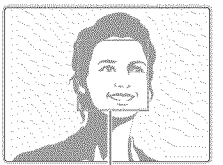
1 In Shooting mode, press [**MENU**].

2 Select **Face Detection** → **Smile Shot**.

3 Compose your shot.

- The camera automatically releases the shutter when it detects a smiling face.





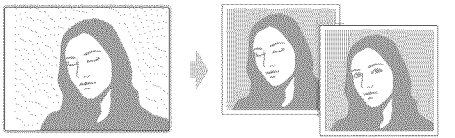
When your subject smiles broadly, your camera can detect the smile more easily.

Detecting eye blinking

If your camera detects closed eyes, it will automatically capture 2 photos in succession.

1 In Shooting mode, press [**MENU**].

2 Select **Face Detection** → **Blink Detection**.



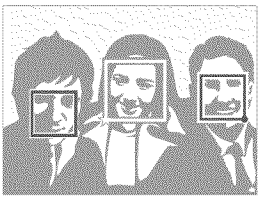
If Blink Detection fails, the "**Picture taken with eyes closed.**" message appears. Capture another photo.

Using Smart Face Recognition

The camera automatically registers faces that you frequently photograph. The Smart Face Recognition feature will automatically prioritize the focus on those faces and on favorite faces. The Smart Face Recognition feature is available only when you use a memory card.

1 In Shooting mode, press [MENU].

2 Select **Face Detection** → **Smart Face Recognition**.



- : Faces that you have registered as favorites. (To register faces as favorites, refer to page 73.)
- : Faces that the camera has automatically registered.

- The camera may recognize and register faces incorrectly depending on lighting conditions, drastic changes in the subject's pose or face, and whether or not the subject is wearing glasses.
- The camera can automatically register up to 12 faces. If the camera recognizes a new face when 12 faces have already been registered, it will replace the lowest priority face with the new one.

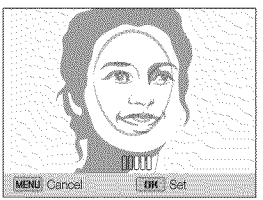
Registering faces as your favorites (My Star)

You can register your favorite faces to prioritize the focus and exposure on those faces. This feature is available only when you use a memory card.

1 In Shooting mode, press [**MENU**].

2 Select **Smart FR Edit** → **My Star**.

3 Align your subject's face with the oval guideline, and then press [**Shutter**] to register the face.



- Capture photos of one person at a time when registering faces.
- Capture 5 photos of the subject's face for best results: one each from the front, left, right, above, and below.
- When capturing photos from the left, right, above, and below, instruct the subject not to turn his or her face more than 30 degrees.
- You can register a face even if you capture only one photo of the subject's face.

4 When you are finished capturing the photos, the face list appears.

- Your favorite faces are indicated with a ★ on the face list.

- You can register up to 8 favorite faces.
- The flash will not fire when you register a favorite face.
- If you register the same face twice, you can delete one of the faces in the face list.

Viewing your favorite faces

1 In Shooting mode, press [**MENU**].

2 Select **Smart FR Edit** → **Face List**.

- To change the ranking of your favorite faces, press [**OK**], and then select **Edit Ranking**. (p. 85)
- To delete a favorite face, press [**OK**], and then select **Cancel My Star**. (p. 86)

Adjusting brightness and color

Learn how to adjust the brightness and color for better image quality.

Adjusting the exposure manually (EV)

Depending on the intensity of the ambient light, your photos may be too bright or dark. In these cases, you can adjust the exposure to get a better photo.

▲ Darker (-)

▲ Neutral (0)

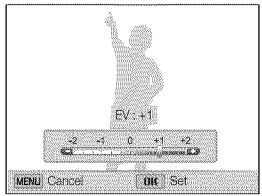
▲ Brighter (+)

1 In Shooting mode, press [**MENU**].

2 Select **EV**.

3 Select a value to adjust the exposure.

- The photo will be brighter as the exposure value increases.



4 Press [**OK**] to save your settings.

- Once you adjust the exposure, the setting will be stored automatically. You may need to change the exposure value later to avoid overexposure or underexposure.
- If you cannot decide on an appropriate exposure, select the **AEB** (Auto Exposure Bracket) option. The camera will capture 3 consecutive photos, each with a different exposure: normal, underexposed, and overexposed. (p. 78)

Compensating for backlighting (ACB)

When the light source is behind your subject or there is high contrast between your subject and the background, your subject is likely to appear dark in the photo. In this case, set the Auto Contrast Balance (ACB) option.

▲ Without ACB

▲ With ACB

1 In Shooting mode, press [**MENU**].

2 Select **ACB**.

3 Select an option.

Icon	Description
OFF	**Off**: ACB (Auto Contrast Balance) is deactivated.
ACB	**On**: ACB (Auto Contrast Balance) is activated.

- The ACB feature is always on in Smart Auto mode.
- The ACB feature is not available when you set Burst options.

Changing the metering option

The metering mode refers to the way in which a camera measures the quantity of light. The brightness and lighting of your photos will vary depending on the metering mode you select.

1 In Shooting mode, press [**MENU**].

2 Select **Metering**.

3 Select an option.

Icon	Description
	Multi: • Your camera divides the frame into several areas, and then measures the light intensity of each area. • Suitable for general photos.
	Spot: • Your camera measures only the light intensity at the very center of the frame. • If a subject is not in the center of the frame, your photo may be improperly exposed. • Suitable for a subject with backlighting.
	Center-weighted: • Your camera averages the meter reading of the entire frame with emphasis placed on the center. • Suitable for photos with subjects in the center of the frame.

Selecting a White Balance setting

The color of your photo depends on the type and quality of the light source. If you want the color of your photo to be realistic, select a White Balance setting that is appropriate for the lighting conditions, such as Auto WB, Daylight, Cloudy, or Tungsten.

AWB Auto WB

Daylight

Cloudy

Tungsten

1 In Shooting mode, press [**MENU**].

2 Select **White Balance**.

3 Select an option.

Icon	Description
AWB	**Auto WB**: Automatically set the White Balance based on the lighting conditions.
	Daylight: For outdoor photos on a sunny day.
	Cloudy: For outdoor photos on a cloudy day or in shadows.
	Fluorescent_H: For shooting under a daylight fluorescent or 3-way fluorescent light.
	Fluorescent_L: For shooting under white fluorescent light.
	Tungsten: For shooting indoor photos under incandescent bulbs or halogen lamps.
	Custom Set: To use White Balance settings that you define. (p. 77)

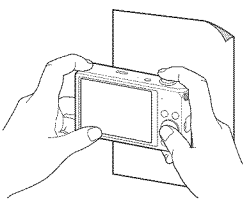
Defining your own White Balance

You can customize the White Balance by capturing a photo of a white surface, such as a piece of paper, under the lighting conditions in which you intend to capture a photo. The White Balance feature will help you to match the colors in your photo with the actual scene.

1 In Shooting mode, press [**MENU**].

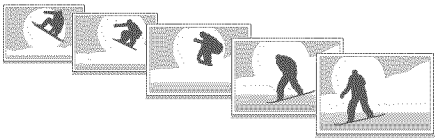
2 Select **White Balance** → **Custom Set**.

3 Aim the lens at a piece of white paper, and then press [**Shutter**].



Using burst modes

It can be difficult to capture photos of fast-moving subjects or capture natural facial expressions and gestures of your subjects in photos. Also, it can be difficult to adjust the exposure correctly and select a proper light source. In these cases, select one of the burst modes.



1 In Shooting mode, press [**MENU**].

2 Select **Drive**.

3 Select an option.

Icon	Description
	Single: Capture a single photo.
	Continuous: • While you are pressing [**Shutter**], the camera continuously captures photos. • The maximum number of photos depends on the capacity of your memory card.
	Motion Capture: While you are pressing [**Shutter**], the camera captures **VGA** photos (5 photos per second; maximum of 30 photos).
	AEB: • Capture 3 consecutive photos, each with a different exposure: normal, underexposed, and overexposed. • Use a tripod to prevent blurry photos.

- You can use the flash and timer only when you select **Single**.
- When you select **Motion Capture**, your camera will set the resolution to **VGA** and set the ISO sensitivity to **Auto**.
- Depending on the Face Detection option you selected, some Burst options may not be available.

Adjusting images

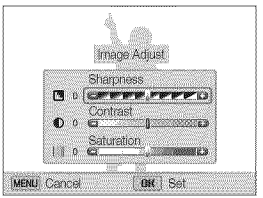
Adjust the sharpness, contrast, or saturation of your photos.

1 In Shooting mode, press [**MENU**].

2 Select **Image Adjust**.

3 Select an option.

- Sharpness
- Contrast
- Saturation



4 Press [**⚡/⏲**] to adjust each value.

Sharpness	Description
-	Soften the edges on your photos (suitable for editing the photos on your computer).
+	Sharpen the edges to improve the clarity of your photos. This may also increase the noise in your photos.

Contrast	Description
-	Decrease the color and brightness.
+	Increase the color and brightness.

Saturation	Description
-	Decrease the saturation.
+	Increase the saturation.

5 Press [**OK**] to save your settings.

Select 0 if you do not want to apply any effects (suitable for printing).

Reducing the sound of the zoom

When you use the zoom while recording videos, the camera can record the sound of the zoom. Use the Sound Alive function to reduce the zoom noise.

1 In Video Shooting mode, press [**MENU**].

2 Select **Voice**.

3 Select an option.

Icon	Description
	Sound Alive On: Turn on the Sound Alive function to reduce the zoom noise.
OFF	**Sound Alive Off**: Turn off the Sound Alive function. The camera can record the zoom noise.
	Mute: Do not record sounds.

- Do not block the microphone when you use the Sound Alive function.
- Recordings made with Sound Alive may differ from actual sounds.
- In Picture-in-Picture mode, you cannot set the Sound Alive options.

Available shooting options by shooting mode

For details about shooting options, refer to "Shooting options".

	Smart Auto	Program	Smart Movie	Movie	Scene	Live Panorama	Picture in Picture	Self Shot	Children	Jump Shot	Beauty Shot
Resolution	O	O	O	O	O	△	△	O	O	O	O
Quality	△	O	O	O	O	△	-	O	O	O	O
Timer	△	O	△	△	O	-	△	-	O	△	△
Flash	△	O	-	-	△	-	△	O	△	-	△
ISO sensitivity	-	O	-	-	-	-	-	-	-	-	-
Macro	△	O	△	O	△	-	-	△	-	-	△
Focus area	-	O	-	-	-	-	-	-	△	-	-
Face detection	△	O	-	-	△	-	-	△	△	-	△
EV	-	O	-	O	-	-	-	-	-	-	-
ACB	△	O	-	-	-	-	-	-	-	-	-
Metering	-	O	-	O	-	-	-	-	-	-	-
White balance	-	O	-	O	-	-	-	-	-	-	-
Drive	-	O	-	-	-	-	-	-	△	-	-
Image adjust	-	O	-	-	-	-	-	-	-	-	△
Sound Alive	-	-	O	O	-	-	-	-	-	-	-
Digital zoom	-	O	-	-	△	-	-	-	-	-	-
Intelli zoom	△	△	-	-	△	-	-	-	-	-	-
OIS	O	O	O	O	O	-	O	O	O	O	O

△: In these modes, some options are limited or a certain option is set by default. O: The option is available in this mode.

Please refer to the warranty that came with your product or visit our website www.samsung.com for after-sales service or inquiries.

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